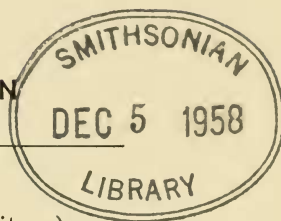


PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON



NEW NEOTROPICAL VELIIDAE (Hemiptera)

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The present paper comprises the descriptions of one new species of the genus *Husseyella* Herring, four new species of the genus *Rhagovelia* Mayr and illustrates the type of *Rhagovelia traili* (Buchanan-White) from South America. The types of the new species are in the Drake Collection (U. S. N.M.). Mr. Arthur Smith of the British Museum made figure 1; the rest of the illustrations were drawn by Mrs. Jerry Rozen, Alexandria, Virginia.

Rhagovelia traili (Buchanan-White) (Fig. 1)
Neovelia traili Buchanan-White, 1879. Journ. Linn. Soc. 14:487.

The type, brachypterous, Manaos, Brasil, in British Museum, is figured. As this species is unknown to American workers, the illustration (Fig. 1) will be of much help in identifying the species.

Husseyella halophila sp. nov.
(Fig. 2 & 3a & b)

Small, subovate, apterous, blackish brown with the short, transverse band (as wide as vertex) near middle of anterior lobe of pronotum and a U-shaped mark at base of head (arms projecting anteriorly next to eyes) reddish brown; entire dorsal surface densely pubescent and interspersed with numerous dark hairs, the hairs on sides of thorax and abdomen a little longer and stiffer than on dorsal surface; body beneath bluish black. Legs dark brown with coxae, trochanters, bases of upper and under surfaces of all femore testaceous. Antennae dark brown with basal fourth of first segment testaceous. Length 2.25 mm. (male) and 2.50 mm. (female), with 1.10 mm. (male) and 1.30 mm. (female, across base of pronotum.)

Head with median, longitudinal, impressed line. Antennae (Fig. 3a) with three, subbasal, moderately long, dark, bristly hairs on second segment, and a subbasal and another bristly hair near the middle of second segment, measurements: I, 0.33 mm.; II, 0.35 mm.; III, 0.52 mm.; IV, 0.45 mm. Pronotum (Fig. 2) (male, cleared) nearly twice as wide (across widest part of hind lobe) as long, composed of two fairly distinct lobes, with fore lobe a little shorter than hind lobe; front

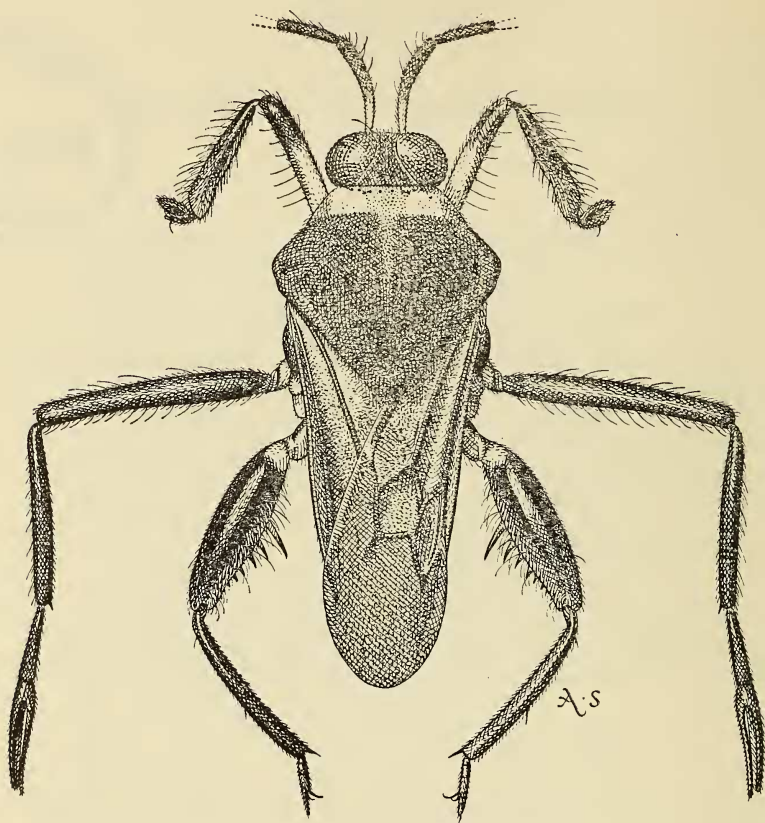


Fig. 1. *Rhagovelia traili* (Buchanan), type

lobe with a transverse row of punctures near hind margin and with collar set-off by an encircling row of punctures, otherwise impunctate; hind lobe with many deep punctures; mesonotum represented on each side by a short triangular plate; metanotum about one-third as long as pronotum, with punctures about the same as in hind lobe of pronotum. Abdomen tapering posteriorly with the connexiva slightly wider in female than in male. Legs unarmed in both sexes; femora only slightly swollen; anterior tarsi strongly swollen; apices of hind femora not reaching to apex of genital segments; tarsi of middle legs as in illustration (Fig. 3b). Alate form unknown.

Holotype (male) and *allotype* (female), Santa Catarina, collected on the quiet, salty waters of a small stream flowing into the Atlantic Ocean. *Paratypes*: 12 specimens, collected with the type in eastern Santa Catarina, Brasil. Many nymphs in various stages of development were also taken.

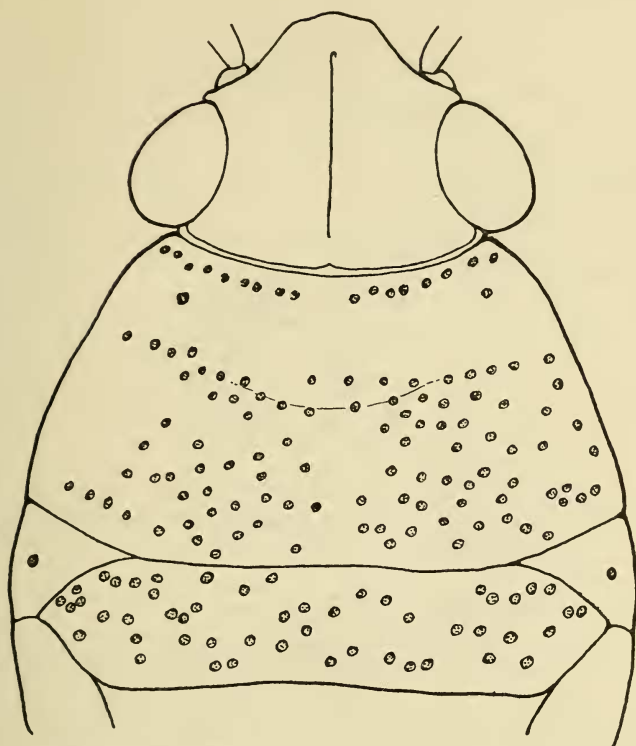


Fig. 2. *Husseyella halophila*, n. sp., pronotum (cleared).

Differs from *H. diffidens* also an inhabitant of Brasil, by the longer hairs on dorsal surface, more shaggy appearance, shorter antennae and measurements of middle tarsi as noted under *H. diffidens*.

***Husseyella diffidens* (Drake and Harris)**

Microvelia diffidentis Drake & Harris, 1933. Proc. Ent. Soc. Wash. 46:52.

Original characterized from five females (*holotype* and four paratypes), Sao Matheos, Brasil. The male (*allotype*) is slightly smaller than the female, but the color, markings and vestiture are quite similar. The connexiva are reddish brown and clothed with moderately long, dark hairs. The reddish brown markings are the same as in female. Antennal measurements: segment I, 34; II, 32; III, 50; IV, 40. Middle legs with tarsal segment I longer than II (38:30).

The antennae of *diffidens* (1.95 mm.) is longer than in *haplophylla* (1.65 mm.); tarsi of middle legs also longer (0.85 mm. to 0.62 mm.); and besides the dorsal surface is not so shaggy. In both species the last segment of the middle tarsi is provided with four bladeliike structures instead of claws (Fig. 3b).

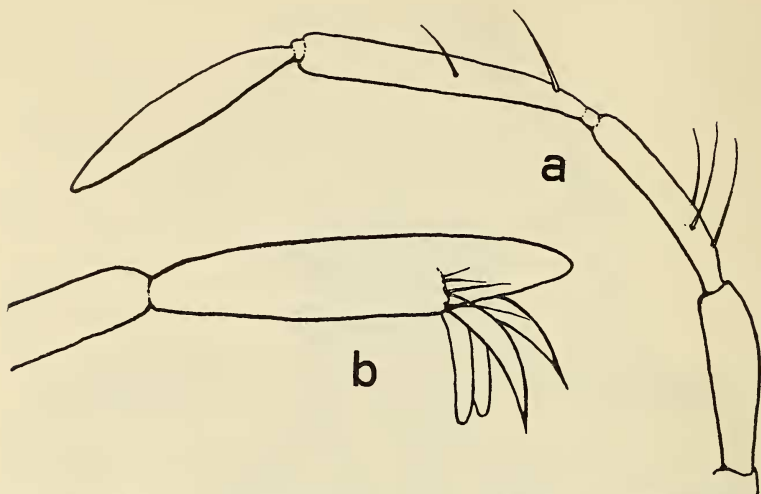


Fig. 3. *Husseyella halovelia*, n. sp.: a, antenna & b, last tarsal segment of middle leg.

***Rhagovelia thaumana*, sp. nov. (Fig. 4a)**

Small, blackish with transverse, subapical, orange band of pronotum interrupted at middle and as wide as vertex; pubescence short, grayish brown. Antennae shortly pubescent, deep black, shining, with basal two-fifths of first segment pale testaceous. Legs deep black, shining, with inferior parts of acetabula, coxae and trochanters of fore and hind legs pale testaceous; middle legs entirely deep black. Last dorsal tergite and sometimes also a spot on preceding segment shining black. Body beneath quite bluish. Length 2.50 mm., width 1.10 mm. male and 1.30 mm. female. Alate form unknown.

Male: Head with the usual impressed, median line and basal marks; labium black-fuscous, shining, reaching a little beyond prosternum. Antennae with bristly black hairs on first two segments, measurements: I, 0.70 mm.; II, 0.41 mm.; III, 0.42 mm.; IV, 0.41 mm. Pronotum very short, not as long as an eye. Mesonotum depressed, especially beyond the middle, shorter than wide (55:75) obliquely converging behind humeri, apex broad and subtruncate; exposed part of metanotum about as long as a tergite. Abdomen strongly tapering apically, last tergite about one-third as wide as basal width, beneath without spine or median carina; connexiva reflexed obliquely upright outwardly, not abruptly narrowed on last two segments. Anterior femur 1.80 mm. long; tibia 0.86 mm. long, scarcely dilate apically, feebly flattened apically beneath. Middle legs with femur 1.80 mm. long; tibia 1.10 mm. long; tarsal segments II and III subequal, each 0.60 mm. long. Hind femur distinctly slenderer than in middle leg, 1.05 mm. long, scarcely swollen, armed barely behind middle of ventral surface with a fairly long spine, followed between there and apex with four or five very short

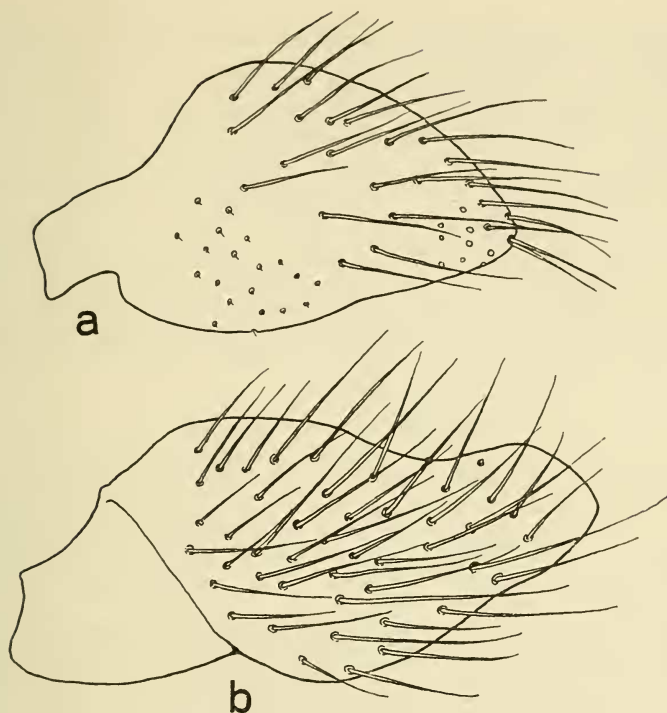


Fig. 4. Right male paramere: a, *R. thaumana*, n. sp. & *R. yacuirana*, n. sp.

spines, the base of first spine (when leg is fully extended along side of abdomen) distinctly surpasses the last tergite; tibia straight, without apical spur or ventral teeth, 1.25 mm. long. Paramere as in Figure 4a.

Female: Broader than male, with mesonotum, metanotum and abdomen (above and beneath) greatly modified, very different from that of any other member of the genus. Color and markings (orange pronotal spot larger) and antennal measurements nearly same as in male. Pronotum almost as long as an eye. Mesonotum strongly modified posteriorly, deflected almost vertically downward posteriorly from behind middle of disc, with a patch of long, brown, reclining hairs on disc (in front of deflection), the tips of which project apically beyond the deflection; metanotum very short, with exposed part on a lower level than that at apex of the deflected posterior part of mesonotum.

Abdomen strongly depressed, with tergites on a lower horizontal level than that of hind part of mesonotum, somewhat troughlike; connexiva wide, upright at base, with last three segments convexly curved inward, slightly widened and with outer edges there in contact or nearly so within, the long brown hairs on outer edge of connexiva longer and quite abundant on last three segments; beneath convexly tectiform, in-

distinctly ridged and provided with pale hairs on median line. Mesosternum very long, strongly impressed on each side opposite metasternal acetabulum; abdomen beneath 0.55 mm. long, with last ventrite at middle, behind emarginate. Hind legs with femur short, slender, not as thick as middle femur, with apex surpassing last genital segment, armed beneath on apical third with three or four very short spines.

Holotype (male) and *allotype* (female), Linha Facao, Mineral Waters, Santa Catharina, Brasil, May, 1957. *Paratypes*: 20 specimens, taken with type.

This species is closely allied to *R. paulana* Drake, though the females are easily distinguished from each other. The male of *R. thaumana*, n. sp. is slightly broader and more depressed above, and with the first spine on hind femora surpasses last abdominal tergite when legs are extended and held parallel along sides of the female abdomen. *R. paulina* is longer, abdomen much longer, and with neither pronotum nor abdomen as greatly modified as in *thaumana*.

***Rhagovelia sabrina*, sp. nov. (Fig. 5a)**

Grayish black with a large, discal, triangular spot of mesonotum, a small, median, basal spot on pronotum and a large spot on each dorsal tergite of abdomen black and shining. Legs black, slightly shining; coxae and inferior part of acetabula of both fore and hind legs flavotestaceous. Antennae blackish with basal third of first segment testaceous. Body beneath bluish black. Length 3.50 mm, width 1.25 mm. (male) and 1.50 mm. (female).

Head with impressed, median, longitudinal line and usual basal impression. Antennae clothed with short, brownish pubescence and usual bristly hairs on first two segments, measurements: I, 95; II, 50; III, 50; IV, 40. Pronotum very short, not longer than length of an eye, with short, transverse, brownish band not prominent and not wider than width of vertex and divided at middle; mesonotum large, convex, wider across humeri than median length (100:80 male and 110:80 female) with lateral sides behind humeri obliquely converging posteriorly and with apex broad and truncate; mesonotum very short. Abdomen tapering posteriorly, more strongly so behind fourth tergite, with connexiva terminating in an acute angle, not produced beyond seventh tergite. Legs long, slender, femora not swollen in either sex.

Male: Connexiva slightly narrower than in female. Hind femora quite slender, with apices scarcely reaching apex of genital segment, armed beneath with a rather short, backwardly curved spine at basal fourth and then followed by two or three shorter ones; tibiae without ventral teeth, with a short, straight, apical spur. Anterior tibiae scarcely dilate, slightly flattened beneath on apical fourth, with short apical comb.

Female: Stouter than male. Hind femora and tibiae unarmed. Other characters as in male. Macropterous forms unknown.

***Rhagovelia stibea*, new sp. (Fig. 5b)**

Black, slightly bluish, especially beneath, without black spots on dorsal tergites; pronotum short, not longer than an eye, with entire median part (slightly wider than vertex) yellowish orange; antennae blackish fuscous, with basal half of first segment pale testaceous. Inferior margin of all acetabula, all coxae, all trochanters and the basal half of

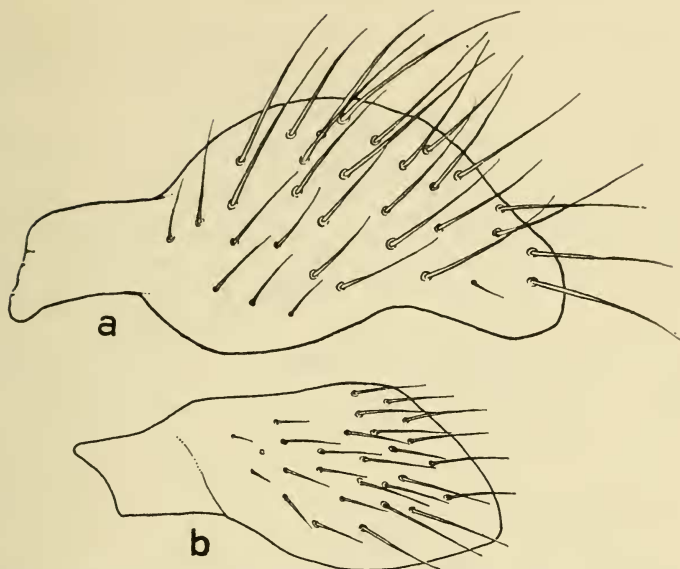


Fig. 5. Right male paramere: *a*, *R. sabina*, n. sp. & *R. stibea*, n. sp.

fore femora pale testaceous. Pubescence on dorsal surface very short, grayish black, without longer hairs. Narrow margin of connexiva black (in one paratype partly brownish). Alate form unknown. Length, 2.30-2.50 mm.; width 0.94-1.00 mm.

Male: Head with median, longitudinal, black line and usual basal impressions. Antennae pubescent, without longer hairs, except for bristly hairs usually found on first two segments, measurements: I, 0.65 mm.; II, 0.28 mm.; III, 0.38 mm.; IV, 0.35 mm. Pronotum very short, with hind margin sinuate. Mesonotum covering most of metanotum, feebly convex, 0.80 mm. long and 0.45 mm. wide, strongly concavely narrowed behind humeri, with apex wide, subtruncate and slightly less than one-third of humeral width. Abdominal tergites tapered evenly posteriorly, with apex about one-third as wide as base; connexiva reflexed obliquely upright laterally, more strongly narrowed on last three segments, with last segment ending in an acute angle at apex of last tergite. Abdomen beneath without median carina or spine. All coxae and trochanters unarmed. Fore tibia feebly dilate, not scooped out but flattened beneath apically, 0.70 mm. long, feebly longer than femur. Middle legs with femur 1.40 mm. long, tibia 1.00 mm., tarsal segment II 0.52 mm. long and III 0.52 mm. Hind femur 1.00 mm. long, scarcely more than one-third as thick as long, armed beneath with a long spine at basal five-eighths, thence to apex with seven to nine shorter spines gradually diminishing in length; tibia 1.20 mm. long, straight, armed on basal half beneath with a row of closely-set, very short, stout, blunt, teeth.

Female: Slightly stouter but with the general aspect, color, markings, antennae and pronotum as in male. Connexiva fairly wide, moderately

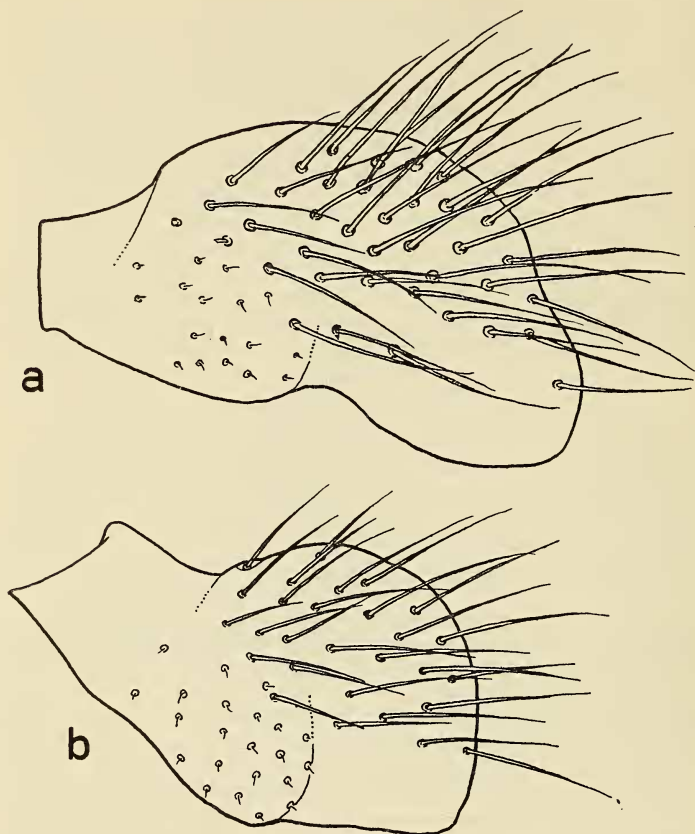


Fig. 6. Right male paramere: *a*, *R. janeira* Drake & *R. hambletoni* D. & H.

narrowed apically, turned upright posteriorly from base of tergite V, truncate at apex. Hind femora not as swollen as in male, armed at apical seven-sixteenths with a long spine, between there and apex with 5 or 6 smaller spines, all spines slightly bent posteriorly and testaceous with black tips. Other structures very similar to those in male.

Holotype (male) and *allotype* (female), Canal Zone, Panama, Feb. 10, 1939, C. J. Drake. *Paratypes*: 6 specimens, same data as type.

Very similar in size and general aspect to *R. evidis* Bacon, but really separated from it by having the entire median longitudinal part of pronotum (as wide as vertex) yellowish orange, lack of black spots on abdominal tergites and the position and number of spines on hind femora; the hind tibiae on basal half beneath armed in both sexes with short, blunt, inconspicuous teeth.

For comparative purposes, the right male paramere of *R. janeira*

Drake (Fig. 6a) and *R. hambletoni* Drake & Harris (Fig. 6b) have been illustrated. Chaetotaxy of the male parameres provides good taxonomic characters in the Genus *Rhagovelia*.

Rhagovelia yacuivana, new sp. (Fig. 4b)

Grayish-black, slightly bluish, more bluish beneath; pronotum short, not longer than an eye, with transverse orange stripe not divided and as wide as vertex at base of eyes; labium blackish with base and juga brownish testaceous. All acetabula, all coxae, all trochanters, anterior half of fore femora and sometimes basal part of inferior surface of hind femora brownish testaceous. Antennae dark fuscus with basal third of first segment brownish testaceous or testaceous. Length, 3.57-4.00 mm.; width, 1.65 mm.

Male: Head with impressed, median, longitudinal lines and usual basal marks. Antennae shortly pubescent hairs on inner face of first two segments, measurements: I, 0.90 mm.; II, 0.52 mm.; III, 0.60 mm.; IV, 0.52 mm. Mesonotum slightly convex, obliquely narrowed on each lateral side behind humeral angles, with apex subtruncate and about one-third as wide as at humeral angles; metanotum very short, subtruncate behind. Dorsal surface of thorax and abdomen provided with some short golden pubescence interspersed with longer, erect, dark hairs.

Abdomen slowly narrowed posteriorly, with tergite II about twice as wide as VII; connexivum narrowed posteriorly, reflexed obliquely upright laterally, with last three segments more sharply narrowed, terminating in an acute angle opposite apex of last tergite. Venter plump, without median carina. Anterior tibia 1.20 mm. long, feebly dilate apically, flattened beneath apically, these with short shallow groove subequal to femur in length. Middle leg with femur 2.10 mm. long, tibia 1.50 mm., tarsus II 0.90 mm. and III 0.85 mm. Hind femur 1.60 mm. long, slightly swollen at thickest point, scarcely thicker than middle femur, armed at basal third with a long spine, thence to apex with much shorter spines; tibia straight, unarmed, with a short, straight spur at apex.

Female: Slightly stouter than male; color, markings, antennae, connexiva and fore and middle legs about same as in male. Trochanters unarmed. Hind femur scarcely as thick as middle femur, equipped with a moderately long spine at apical third, thence to apex with 4 or 5 much shorter spines; hind tibia unarmed, with short apical spur. Hind femora, both male and female, only feebly thicker than intermediate ones. Alate female 4.25 mm. long. Pronotum moderately convex across humeral angles, 1.65 mm. long and 1.75 mm. wide at humeri. Hemelytra dark fuscous brown or blackish brown with veins darker.

Holotype (male) and *allotype* (female), both apterous, Yacuiva, Bolivia, Aug. 1917 (ex. Pennington Coll.) *Paratypes*: 4 specimens same data as type, 6 specimens, Piquate, Salta, Arg., Aug., 1934; and 24 specimens Santa Cruz, Bol., Oct. 17, 1957.

About the same size, color, markings and general appearance as *R. velocis* Drake and Harris. It differs, however, in having the male parameres broadly rounded at apex (not pointed as in *velocis*), shorter and thinner hairy vestiture of dorsal surface, shorter bristly hairs on legs, slightly differently shaped hind femora and distinctly shorter abdomen in male.